

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1 – 4 (cancelled)

Claim 5 (new): A storage system for extracorporeal storage of organs, said storage system comprising:

an organ perfusion chamber;

a vitality-preserving fluid circuit for circulating a vitality-preserving fluid into an organ stored in said organ perfusion chamber, wherein said vitality-preserving fluid includes a dialysate circuit; and

a storage fluid that fills said organ perfusion chamber, wherein said storage fluid is a dialysate and wherein said organ perfusion chamber serves as a reservoir for said dialysate that is added to said dialysate circuit as needed.

Claim 6 (new): The system of claim 5 further comprising a temperature control device within said organ perfusion chamber for controlling temperature of said storage fluid in said organ perfusion chamber.

Claim 7 (new): The system of claim 6, wherein said temperature control device is a heating mat.

Claim 8 (new): The system of claim 6, wherein the temperature control device is integrated into the wall of the organ perfusion chamber.

Claim 9 (new): The system of claim 8, wherein the temperature control device comprises temperature-control loops embedded with a wall of said organ perfusion chamber.

Claim 10 (new): The system of claim 5, wherein said organ perfusion chamber is hermetically sealed against fluid and pressure.